

REMARKS/ARGUMENTS

Claims 1-36 were submitted for examination. In this Office Action, Claims 1-3, 5-10, 13-15, 22-24 and 27-29 are rejected under 35 USC 102(b) as being anticipated by Kawahara et al (US Patent No. 6,327,057, hereinafter “Kawahara”), and Claims 4, 11, 16018, 25, 30-33 are rejected under 35 USC 103(a) as being unpatentable over Kawahara in view of well known prior art, Claims 20-21 and 34-35 are rejected under 35 USC 103(a) as being unpatentable over Kawahara in view of Apperson et al (US Patent No. 6,079,624, hereinafter “Apperson”) and Claim 36 is rejected under 35 USC 103(a) as being unpatentable over Kawahara in view of Hasegawa et al (US Patent No. 6,678,076 hereinafter “Hasegawa”).

The Examiner is appreciated for thoughtful comments. In the foregoing amendments, Claims 22-35 have been cancelled without prejudice, Claims 1-15, 18 and 36 have been amended to further distinguish from the cited references, and Claims 37-38 are newly added. No new matters have been introduced. As a result of the amendments, Claims 1-21 and 36-38 are pending. Further consideration of the pending claims is respectfully requested in view of the amendments and the following remarks.

Claim Rejections under 35 USC 102

A cited prior art reference anticipates a claimed invention under 35 USC 102 only if every element of the claimed invention is identically shown in the single reference, arranged as they are in the claim. MPEP 2131; *in re Bond*, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990). Each and every limitation of the claimed invention is significant and must be found in the single cited prior reference. *In re Donohue*, 766 F2.d 531, 534, 266 USPQ 619, 621 (Feb. Cir. 1985). As set forth more fully below, Kawahara does not disclose or suggest each and every element of the claimed invention.

In particular, amended Claim 1 now recites:

providing a first contact image sensor module for executing a first document reading session through a trigger of a start pulse, and then the first contact image sensor module outputting a corresponding first scanned image signal;

providing a second contact image sensor module operatively connected to the first contact image sensor module for executing a second document reading session and then the second contact image sensor module outputting a corresponding second scanned image signal, wherein the first and the second scanned image signals are selected to be outputted sequentially via an interface to a computing device that executes a software module to integrate the first and the second scanned image signals to recover an image of the object.

(*Emphasis added*)

As shown in FIG. 5 or FIG. 6 of the current application, an optical scanner includes at least two contact image sensor modules, each is provided to cover one part of an object (e.g., a document). Upon receiving a start pulse, a first contact image sensor module starts a first scanning operation. When the first scanning operation is done, a second contact image sensor module is caused to start a second scanning operation. As the scanned image signals are read out sequentially, it is understood to those skilled in the art that the scanned image signals from the first and second contact image sensor modules must be “stitched” or integrated to recover an image of the object. The operation of stitching the image signals is specifically recited to be performed in a software module being executed in a computing device that receives the image signals via an interface.

In contrast, Kawahara teaches a method of reducing current consumption in a contact type linear image sensor of a multi-chip form, where multiple linear sensor chips are connected in series. In operation, when one of the linear sensor chips is in scanning mode, the others linear sensor chips are put into “sleeping mode” so as to reduce the power consumption. However, Kawahara is silent about “the first and the second scanned image signals are selected to be outputted sequentially via an interface to a computing device that executes a software module to integrate the first and the second scanned image signals to recover an image of the object.”

On page 9, 1st paragraph of the Office Action, the Examiner takes an official notice alleging that it is well known in the art that software is provided for integrating the corresponding outputted image signals. The Applicant respectfully disagrees with the Examiner. It is commonly understood that a software module could be used to process

an image, but the software module recited in claim 1 is specifically configured to integrate two scanned image signals to recover an image of the object being scanned due to the unique features of the at least two contact image sensor modules activated in sequence. Should the Examiner still maintain the official notice, the Applicant respectfully challenges the Examiner to provide an evidence that such a combination of producing two scanned image signals and integrating them to recover an image is well known. Accordingly, it is believed to the Applicant that once-amended claim 1 shall have overcome Kawahara, thus amended claim 1 shall be allowable over Kawahara.

In particular, Claim 7 has been amended to specifically recite the ability of scanning a double-sided object with two contact image sensor modules disposed face to face. As a result, two images of the double-sided object can be recovered by the software module. Again, the Applicant wishes to emphasize that such software module must be specifically designed to cooperate with the number of the contact image sensor modules. Further, the first contact image sensor module and the second contact image sensor module are disposed face to face to scan the both sides of the object simultaneously. No cited references, viewed individually or in combination, have suggested such a feature(s). Reconsideration of claims 1-7 is kindly requested.

Claim 8 is amended to include similar limits recited in claim 1. Further, claim 8 includes a timing generator that not only provides a clocking signal to each of the contact image sensor modules but also is configured to provide a start pulse to a first contact image sensor module to trigger a first document reading session thereof and output a first scanned image signal. In contrast, as described in lines 18-34 of Col. 2, Kawahara teaches the use of a clock buffer being on or off to synch with a “sensor module” being in operation or not. Kawahara is silent about using a timing generator to control the operations of multiple sensor chips. Accordingly, it is respectfully submitted that amended claim 8 shall be allowable over Kawahara. Reconsideration of claims 8 - 21 is kindly requested.

Claim 36 is rejected under 35 USC 103(a) as being unpatentable over Kawahara in view of Hasegawa. The Examiner admits on page 13 that Kawahara fails to disclose *“a portion of these contact image sensor modules is placed in a face-up manner and*

another portion is placed in a face-down manner", then cites Hasegawa in combination with Kawahara to reject claim 36. The Applicant wishes to refer the Examiner to FIG. 2 in Hasegawa, these two image sensors 117 and 121 are not face to each other. Instead, the sensor 117 is placed to face down to scan the upward side of a document. As the document moves across the conveyer, the original upward side of a document is now facing downward while the original downward side of the document is now facing up to the sensor 121. In other words, both of the sensors 117 and 121 are placed to face downward. By the turning of the conveyer, two sides of the document are turned upwards to be scanned. Evidently, the combination of Kawahara and Hasegawa does not teach nor suggest "*a portion of these contact image sensor modules is placed in a face-up manner and another portion is placed in a face-down manner*". Accordingly, claim 36 shall be allowable. Reconsideration of claim 36 is respectfully requested.

Claims 37-38 are newly added to include similar limits recited in claim 36. The Applicant wishes to rely on the above arguments to support claims 37-38. It is believed that claims 37-38 shall be allowance over the cited references.

In view of the above amendments and remarks, the Applicants believe that Claims 1-21 and 36-38 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the EFS of the United States Patent and Trademark Office and addressed to "Commissioner of Patents and Trademarks, Alexandria, VA 22313-1450", on March 13, 2008.

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Respectfully submitted;
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